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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT PAPER NUMBER

1724

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,656

Applicant(s)

KISHKOVICH ET AL.

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-11 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 12-20 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 is indefinite because it is unclear whether the pore size refers to the overall filter efficiency or to the pore size of the adsorbent particles of acidic polymer. This rejection could be overcome by changing "a pore size" to "an adsorbent particle pore size," for example.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinkead et al. (5,626,820) in view of de Ruiter et al. (5,616,169).
5. Kinkead et al. '820 disclose a process for producing a vapor absorptive non-woven air filter, comprising providing a non-woven carrier of thermoplastic fibers, applying adsorbent particles of impregnated activated carbon or ion exchange resin to the carrier surface, heating the material, and calendaring the heated material with the distributed adsorbent particles, wherein the heating and calendaring are sufficient to retain the adsorbent particles. The resulting filter can be

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pleated and be used in series with a second activated carbon adsorbent containing filter (figures, col. 5, lines 15-25, col. 6, line 28 to col. 7, line 63, col. 10, lines 20-25). The filter is inherently capable of maintaining a base concentration below 2 ppb, especially when the starting concentration is as near to or less than 2ppb. The instant claims differ from the disclosure of Kinkead et al. '820 in that the adsorbent particles comprise a sulfonated copolymer and a preferred adsorbent particle size, pore size and acidity level.

6. de Ruiter '169 disclose a pollutant filter for use in air supply ducts, containing supported particulate activated carbon having a particle size of 0.3 to 1.0 mm, or sulfonated styrene-divinyl benzol copolymers (abstract, col. 3, lines 6-28, claim 1). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the adsorbent of Kinkead et al. '820 by using a sulfonated copolymer in order to provide an adsorbent known to be useful in gas pollutant removal systems that employ particulate supported materials. Absent a proper showing of criticality or unexpected results, the particle size, acidity, and pore size are considered to be parameters that would have been routinely optimized by one having ordinary skill in the art at the time of the invention in order to provide an optimum capacity and rate of adsorption for targeted pollutants.

Allowable Subject Matter

7. Claims 5-11 are allowed.

8. The following is an examiner's statement of reasons for allowance: Reasons for allowance are given in the previous office action.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed June 22, 2005 have been fully considered but they are not persuasive. Applicant argues that one skilled in the art would not look to the teachings of de Ruiter for modifying filters for semiconductor processing systems because the de Ruiter filters are for building air conditioners or motor vehicles. It is submitted that the Kinhead et al. filter system is considered to be used in the air supply duct of an air conditioning system for a room in a building, which is analogous to the de Ruiter filters that are used in air supply ducts such as in air conditioning systems. Also, it appears that semiconductor processing system filters are not limited to the claimed adsorbent filters, but can also be bag filters, HEPA filters and other pleated filters as shown in the Kinhead et al. patent (see figures 1A-3, col. 5, lines 15-26).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank M. Lawrence
Primary Examiner
Art Unit 1724

Frank Lawrence
7-19-05

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